



An Integrated Control Strategy in Disturbance Decoupling of Max-Plus Linear Systems with Applications to a High Throughput Screening System in Drug Discovery

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Résumé en anglais	<p>This paper presents an integrated control strategy solving disturbance decoupling of max-plus linear systems. The classical disturbance decoupling problem (DDP) in geometric control theory means that the controlled outputs will not be changed by any disturbances. The new proposed modified disturbance decoupling problem (MDDP) ensures that the controlled output signals will not be delayed more than the existing delays caused by the disturbances in order to achieve the just-in-time optimal control. Furthermore, this paper presents the integration of state-feedback and open-loop control strategies to solve the MDDP, as well as the DDP. If these controls can only solve the MDDP, but not the DDP, an evaluation principle is established to compare the distance between the output signals generated by the controllers and the output signals generated by the disturbances. The main results of this paper are illustrated by a high throughput screening system in drug discovery.</p>
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Liens

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